



# Water Quality NewsFlash

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**West Nile Virus – New cases focus interest on stormwater controls** - West Nile Virus is spread by mosquitoes and was first detected in California in 2002. The Department of Health Services has reported 10 human cases so far this year. All but two cases were in San Bernardino County. WNV has been detected in birds and mosquitoes in six Southern California counties. According to DHS, most people bitten by a mosquito with WNV will not get sick. Those who do become ill may experience mild to moderate flu-like symptoms. An estimated 1% or less of those infected become severely ill and require hospitalization. DHS WNV site: <http://www.westnile.ca.gov/>

Even BMPs which are not intended to hold water may in fact do so and create mosquito habitat. Some species can complete the aquatic stages of development and emerge as adults in less than 1 week under ideal conditions. Because of this, vector control officials in California recommend a 72-hour maximum residence time for captured water in treatment BMPs as a conservative safeguard. Integrating mosquito control into BMP project design can eliminate or reduce mosquito production and result in lower long-term maintenance costs. For constructed wetlands, the ideal design parameters are still being developed. Regardless of their design, DHS staff recommend periodic monitoring of all treatment BMPs for mosquito larvae. Two recent UC publications review vector concerns and suggest ways to control the risks: *Managing Mosquitoes in Stormwater Treatment Devices* (Metzger, 2004) <http://anrcatalog.ucdavis.edu/pdf/8125.pdf> and *Managing Mosquitoes in Surface-Flow Constructed Treatment Wetlands* (Walton, 2003) <http://anrcatalog.ucdavis.edu/pdf/8117.pdf>

An Australian report: *Mosquitoes in Constructed Wetlands*, suggests that in heavily vegetated wetlands, macroinvertebrates (e.g., waterbugs, beetles) are generally more successful predators of mosquito larvae than fish, but that fish and other controls are more effective in open areas. <http://www.environment.sa.gov.au/epa/pdfs/mosquitoes.pdf> The Caltrans Retrofit BMP studies were evaluated in conjunction with vector control agencies and many of the BMPs were modified during the course of the study to eliminate standing water. The resulting reports on Vector Monitoring and Abatement are included in the Retrofit report appendices – see Appendix E: [http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/\\_pdfs/new\\_technology/CTSW-RT-01-05a.pdf](http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/_pdfs/new_technology/CTSW-RT-01-05a.pdf)

**Disappearing Frogs – Trout likely responsible** – The decline in Sierra frog populations has been attributed to various potential causes ranging from pesticides to excessive exposure to ultra-violet radiation due to depletion of the ozone layer. A recent report by Berkeley researchers shows that removing introduced trout in Sierra lakes results in rapid recovery of frog populations. The report suggests trout may be responsible for much of the documented decline. [http://www.pnas.org/cgi/content/abstract/0402321101v1?ijkey=167c5467e5050e3e5019c26581a229babb364738&keytype=tf\\_ipsecs](http://www.pnas.org/cgi/content/abstract/0402321101v1?ijkey=167c5467e5050e3e5019c26581a229babb364738&keytype=tf_ipsecs) For those interested in volunteer frog tracking: *North American Amphibian Monitoring Program*: <http://www.pwrc.usgs.gov/naamp/>

WQ NewsFlash is a weekly update of storm water and related news for the Department. *Verify information before taking action on these bulletins.* Contact Betty Sanchez, [Betty\\_Sanchez@dot.ca.gov](mailto:Betty_Sanchez@dot.ca.gov) (916) 653-2115, or Fred Krieger, (510) 843-7889, [fkrieger@msn.com](mailto:fkrieger@msn.com) with questions or to be added or deleted from e-mail list. Posted online at: <http://www.dot.ca.gov/hq/env/stormwater/publicat/newsflash/index.htm>